

Unlocking energy affordability in Virginia

By treating households as energy infrastructure, Virginia can make whole-home electrification, rooftop solar, and battery storage affordable for **1.4 million additional households** — unlocking **\$30,300 in average lifetime savings** per household and **\$42.7 billion statewide**.¹ This means a more efficient, resilient energy system that can meet growing demand without driving up costs.

Why this matters now

Virginia is facing a growing energy affordability challenge. As electricity demand grows and the grid ages, utilities are ramping up spending on new generation and transmission — costs that will ultimately be passed on to ratepayers.

Yet even as spending accelerates, the system is underinvesting in the lowest-cost ways to reduce bills and meet energy needs: efficient electric appliances, rooftop solar, and battery storage.



In *Homegrown Energy: A policy blueprint for energy affordability*, we outline a set of interlocking policies that correct this imbalance by directing a meaningful share of energy system investment toward homes. Together, these policies create a self-reinforcing cycle that drives down costs and scales adoption over time.

The result is a more affordable, flexible, and resilient energy system — one that delivers immediate benefits to families while reducing long-term costs for all ratepayers.

¹ Affordability is defined as a household's ability to adopt home energy upgrades at the same or lower total cost — accounting for both upfront and operating costs — than replacing existing equipment with new like-for-like systems. Lifetime savings reflect average household savings over 15 years.

How Virginia unlocks energy affordability

Today's baseline:

Only **133,500** households in Virginia can afford home energy upgrades under current market conditions²

Policy interventions

Reduce soft costs:

+ 497,000 more households could afford home energy upgrades
Cut red tape to lower project costs and increase the impact of every other policy

Align system incentives and investment:³

Data centers pay

Require AI data centers to invest in distributed energy resources and household upgrades

+ 504,400
households

Non-pipeline alternatives

Redirect gas infrastructure spending toward electrification, avoiding costly pipeline investments

+ 603,500
households

Inclusive utility investment

Enable utilities to fund the upfront cost of upgrades and recover those costs through energy bill savings

+ 572,200
households

Electrification-friendly rate design

Align electricity pricing with system costs to lower operating costs for electrified homes

+ 135,500
households

Ensure households are paid for the value they provide:

Households where home energy upgrades are affordable can join **virtual power plants**, becoming grid assets and earning compensation

If Virginia invests in households as an energy solution:

1.5 million

Households could afford home energy upgrades — lowering system costs while building a more flexible and resilient grid⁴

² "Home energy upgrades" includes whole-home electrification, solar, and storage.

³ Values shown reflect the additional number of households for which home energy upgrades become affordable under each policy, assuming soft cost reductions have already been applied.

⁴ The total impact is not the sum of individual policy impacts, as these policies interact and their effects partially overlap.